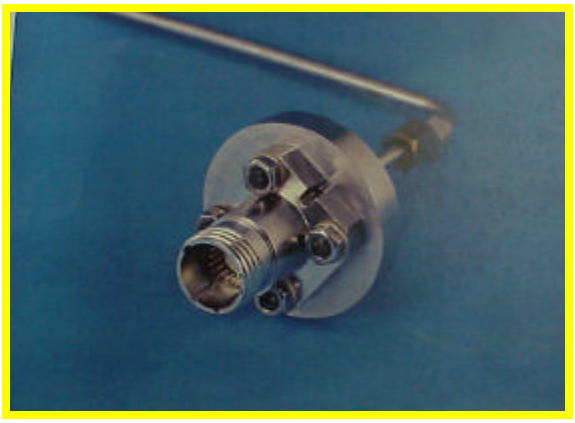
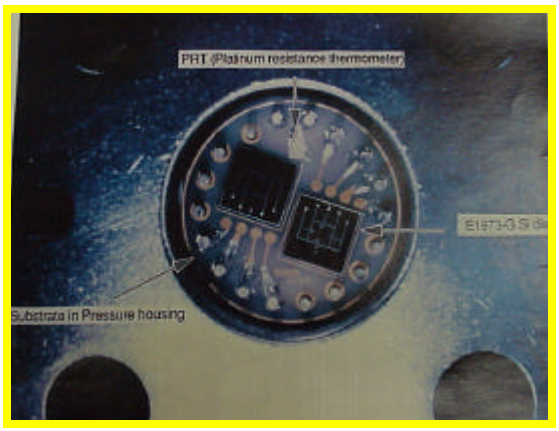
True Cryogenic Pressure Sensor





Objective

The multi-element solid state pressure sensors optimized for cryogenic use are included into a single transducer. The benefits are reduction of installed hardware, thermal compensation, built-in redundancy, small size, and moderately high output. Based upon Silicon chip technology, this transducer gives the possibility of algorithmic reliability predictions as well as statistical improvement in accuracy and precision. Alternately, it can be configured as an extremely small unit with fewer sensors. Included in the transducer are four pressure sensing chips and temperature sensors, allowing real time thermal compensation over wide ranges.

Why Needed

A cryogenic sensor is needed to allow direct mounting to propellant ducting or launch vehicles. Common installations of sensors on rocket engines usually include a number of parts specifically meant to yield thermal isolation from the immediate locality in order to widen the applicability of the sensor, meaning using a non-cryogenic unit in a super cold situation; that, however, requires standoffs, offset tubing, mounting brackets, etc. Direct mounting reduces weight, size, and complexity, thus supporting maintainability.

Point of Contact

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Sponsor

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